State of Utah

FIVE-YEAR NOTICE OF REVIEW AND STATEMENT OF CONTINUATION

DAR file no:		Date filed:	
Utah Admin. Code ref. (R no.):	R307-410	Time filed:	

1. Agency: Environmental Quality/Air Quality
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(Interested persons may inspect this filing at the above address or at DAR between 8:00 a.m. and 5:00 p.m. on business days.)

2. Title of rule or section (catchline):
Permits: Emission Impact Analysis

3. A concise explanation of the particular statutory provisions under which the rule is enacted and how these provisions authorize or require the rule:
19-2-104(1) states that the Air Quality Board may make rules "(a) regarding the control, abatement, and prevention of air pollution from all sources..." R307-410 establishes procedures and requirements for evaluating the expected impact of emissions from new or modified sources that require an approval order under R307-401. R307-410 also establishes the procedures and requirements for evaluating the impact of emissions of hazardous air pollutants. These evaluations help to determine the control requirements necessary to attain and maintain the federal health standards for air quality.

4. A summary of written comments received during and since the last five-year review of the rule from interested persons supporting or opposing the rule: Written comments were received only when R307-410 was amended. (DAR #28323, published December 1, 2005.) COMMENT: R307-410 establishes modeling thresholds that are based on the federal rules. These rules do not adequately address Utah's airsheds that are bounded by mountains and subject to persistent inversions. The US standard for NOx is an annual standard, but other nations set shorter-term standards. Shorter-term NOx standards are important in Utah because NOx is a precursor to ozone and PM2.5. Permitting actions allow high short term NOx averages because the annual average does not meet the threshold level. The rule would be more effective if the threshold was based on a shorter averaging period. REPSONSE: The modeling thresholds in R307-410 are based on the federal significance level that was established in the Prevention of Significant Deterioration (PSD) program. Unlike the PSD program, the thresholds apply to all sources, not just major sources. The threshold level for NOx is 40 tons/year. The

	Division of Air Quality (DAQ) has found that the current thresholds have worked well to identify sources that would likely affect NAAQS levels in areas close to the source. The threshold level determines when a source is required to submit a modeling analysis with the Notice of Intent to Construct. If the executive secretary has reason to believe that a source that falls below the threshold will be a problem, then modeling can be completed in-house. In all cases, the executive secretary cannot issue an approval order if it causes a violation of the federal health standard. Ozone and PM2.5 problems in Utah are primarily due to the reactions of precursor emissions. Current permitting models are not effective to determine the effect of a source of NOx on either ozone or PM2.5. For this reason, Utah has adopted an emissions offset program for NOx that applies in nonattainment and maintenance areas for ozone and PM2.5. This program has been an effective mechanism for addressing the impact of new and modified sources of NOx.
5.	**A reasoned justification for continuation of the rule, including reasons why the agency disagrees with comments in opposition to the rule, if any:** R307-410 is necessary so that sources of air pollution know the requirements that apply to them as they prepare applications to construct or modify their installations.
6.	**Indexing information - keywords (maximum of four, in lower case):** air pollution, PSD, Class I area
7.	**Attach an RTF document containing the text of this rule change (filename):** There is currently a document associated with this filing. Rule Text
To the agency: Information requested on this form is required by Section 63-46a-9. Incomplete forms will be returned to the agency for completion, possibly delaying the effective date.	

AGENCY AUTHORIZATION

Agency head or designee, and title:	M. Cheryl Heying Planning Branch Manager	**Date** (mm/dd/yyyy):	6/1/2006

Non Printable

M. Cheryl Heying 5-25-06

R307. Environmental Quality, Air Quality.
R307-410. Permits: Emissions Impact Analysis.
R307-410-1. Purpose.

This rule establishes the procedures and requirements for evaluating the emissions impact of new or modified sources that require an approval order under R307-401 to ensure that the source will not interfere with the attainment or maintenance of any NAAQS. The rule also establishes the procedures and requirements for evaluating the emissions impact of hazardous air pollutants. The rule also establishes the procedures for establishing an emission rate based on the good engineering practice stack height as required by 40 CFR 51.118.

R307-410-2. Definitions.

(1) The following additional definitions apply to R307-410.

"Vertically Restricted Emissions Release" means the release of an air contaminant through a stack or opening whose flow is directed in a downward or horizontal direction due to the alignment of the opening or a physical obstruction placed beyond the opening, or at a height which is less than 1.3 times the height of an adjacent building or structure, as measured from ground level.

"Vertically Unrestricted Emissions Release" means the release of an air contaminant through a stack or opening whose flow is directed upward without any physical obstruction placed beyond the opening, and at a height which is at least 1.3 times the height of an adjacent building or structure, as measured from ground level.

(2) Except as provided in (3) below, the definitions of "stack", "stack in existence", "dispersion technique", "good engineering practice (GEP) stack height", "nearby", "excessive concentration", and "intermittent control system (ICS)" in 40 CFR 51.100(ff) through (kk) and (nn) effective July 1, 2005 are hereby incorporated by reference.

(3)-(a) The terms "reviewing authority" and "authority administering the State implementation plan" shall mean the executive secretary.

(b) The reference to "40 CFR parts 51 and 52" in 40 CFR 51.100(ii)(2)(i) shall be changed to "R307-401, R307-403 and R307-405".

(c) The phrase "For sources subject to the prevention of significant deterioration program (40 CFR 51.166 and 52.21)" in 40 CFR 51.100(kk)(1) shall be replaced with the phrase "For sources subject to R307-401, R307-403, or R307-405".

R307-410-3. Use of Dispersion Models.

All estimates of ambient concentrations derived in meeting the requirements of R307 shall be based on appropriate air quality models, data bases, and other requirements specified in 40 CFR Part 51, Appendix W, (Guideline on Air Quality Models), effective July 1, 2005, which is hereby incorporated by reference. Where an air quality model specified in the Guideline on Air Quality Models or other EPA approved guidance documents is inappropriate, the executive secretary may authorize the modification of the model or substitution of another model. In meeting the requirements of federal law, any modification or substitution will be made only with the written approval of the Administrator, EPA.

R307-410-4. Modeling of Criteria Pollutant Impacts in Attainment Areas.

Prior to receiving an approval order under R307-401, a new source in an attainment area with a total controlled emission rate per pollutant greater than or equal to amounts specified in Table 1, or a modification to an existing source located in an attainment area which increases the total controlled emission rate per pollutant of the source in an amount greater than or equal to those specified in Table 1, shall conduct air quality modeling, as identified in R307-410-[2]3, to estimate the impact of the new or modified source on air quality unless previously performed air quality modeling for the source indicates that the addition of the proposed emissions increase would not violate a National Ambient Air Quality Standard, as determined by the Executive Secretary.

TABLE 1

POLLUTANT	EMISSIONS
sulfur dioxide	40 tons per year
oxides of nitrogen	40 tons per year
PM10 - fugitive emissions and fugitive dust	5 tons per year
PM10 - non-fugitive emissions or non-fugitive dust	15 tons per year
carbon monoxide	100 tons per year
lead	0.6 tons per year

R307-410-5. Documentation of Ambient Air Impacts for Hazardous Air Pollutants.

(1) Prior to receiving an approval order under R307-401, a source shall provide documentation of increases in emissions of hazardous air pollutants as required under (c) below for all installations not exempt under (a) below.

(a) Exempted Installations.

(i) The requirements of R307-410-5 do not apply to installations which are subject to or are scheduled to be subject to an emission standard promulgated under 42 U.S.C. 7412 at the time a notice of intent is submitted, except as defined in (ii) below. This exemption does not affect requirements otherwise applicable to the source, including requirements under R307-401.

(ii) The executive secretary may, upon making a written determination that the delay in the implementation of an emission standard under R307-214-2, that incorporates 40 CFR Part 63, might reasonably be expected to pose an unacceptable risk to public health, require, on a case-by-case basis, notice of intent documentation of emissions consistent with (c) below.

(A) The executive secretary will notify the source in writing of the preliminary decision to require some or all of the documentation listed in (c) below.

(B) The source may respond in writing within thirty days of receipt of the notice, or such longer period as the executive secretary approves.

(C) In making a final determination, the executive secretary will document objective bases for the determination, which may include public information and studies, documented public comment, the applicant's written response, the physical and chemical properties of emissions, and ambient monitoring data.

(b) Lead Compounds Exemption. The requirements of R307-410-5 do not apply to emissions of lead compounds. Lead compounds shall be evaluated pursuant to requirements of R307-410-4.

(c) Submittal Requirements.

(i) Each applicant's notice of intent shall include:

(A) the estimated maximum pounds per hour emission rate increase from each affected installation,

(B) the type of release, whether the release flow is vertically restricted or unrestricted, the maximum release duration in minutes per hour, the release height measured from the ground, the height of any adjacent building or structure, the shortest distance between the release point and any area defined as "ambient air" under 40 CFR 50.1(e), effective July 1, 2005, which is hereby incorporated by reference for each installation for which the source proposes an emissions increase,

(C) the emission threshold value, calculated to be the applicable threshold limit value - time weighted average (TLV-TWA) or the threshold limit value - ceiling (TLV-C) multiplied by the appropriate emission threshold factor listed in Table 2, except in the case of arsenic, benzene, beryllium, and ethylene oxide which shall be calculated using chronic emission threshold factors, and formaldehyde, which shall be calculated using an acute emission threshold factor. For acute hazardous air pollutant releases having a duration period less than one hour, this maximum pounds per hour emission rate shall be consistent with an identical operating process having a continuous release for a one-hour period.

TABLE 2
EMISSION THRESHOLD FACTORS FOR HAZARDOUS AIR POLLUTANTS
(cubic meter pounds per milligram hour)

VERTICALLY-RESTRICTED AND FUGITIVE EMISSION RELEASE POINTS

DISTANCE TO PROPERTY BOUNDARY	ACUTE	CHRONIC	CARCINOGENIC
20 Meters or less	0.038	0.051	0.017
21 - 50 Meters	0.051	0.066	0.022
51 - 100 Meters	0.092	0.123	0.041
Beyond 100 Meters	0.180	0.269	0.090

VERTICALLY-UNRESTRICTED EMISSION RELEASE POINTS

DISTANCE TO PROPERTY BOUNDARY	ACUTE	CHRONIC	CARCINOGENIC
50 Meters or less	0.154	0.198	0.066
51 - 100 Meters	0.224	0.244	0.081
Beyond 100 Meters	0.310	0.368	0.123

(ii) A source with a proposed maximum pounds per hour emissions increase equal to or greater than the emissions threshold value shall include documentation of a comparison of the estimated ambient concentration of the proposed emissions with the applicable toxic screening level specified in (d) below.

(iii) A source with an estimated ambient concentration equal to or greater than the toxic screening level shall provide additional documentation regarding the impact of the proposed emissions. The executive secretary may require such documentation to include, but not be limited to:

(A) a description of symptoms and adverse health effects that can be caused by the hazardous air pollutant,

(B) the exposure conditions or dose that is sufficient to cause the adverse health effects,

(C) a description of the human population or other biological species which could be exposed to the estimated concentration,

(D) an evaluation of land use for the impacted areas,

(E) the environmental fate and persistency.

(d) Toxic Screening Levels and Averaging Periods.

(i) The toxic screening level for an acute hazardous air pollutant is 1/10th the value of the TLV-C, and the applicable averaging period shall be:

(A) one hour for emissions releases having a duration period of one hour or greater,

(B) one hour for emission releases having a duration period less than one hour if the emission rate used in the model is consistent with an identical operating process having a continuous release for a one-hour period or more, or

(C) the dispersion model's shortest averaging period when using an applicable model capable of estimating ambient concentrations for periods of less than one hour.

(ii) The toxic screening level for a chronic hazardous air pollutant is 1/30th the value of the TLV-

TWA, and the applicable averaging period shall be 24 hours.

(iii) The toxic screening level for all carcinogenic hazardous air pollutants is 1/90 the value of the TLV-TWA, and the applicable averaging period shall be 24 hours, except in the case of formaldehyde which shall be evaluated consistent with (d)(i) above and arsenic, benzene, beryllium, and ethylene oxide which shall be evaluated consistent with (d)(ii) above.

R307-410-6. Stack Heights and Dispersion Techniques.

(1) The degree of emission limitation required of any source for control of any air contaminant to include determinations made under R307-401, R307-403 and R307-405, must not be affected by so much of any source's stack height that exceeds good engineering practice or by any other dispersion technique except as provided in (2) below. This does not restrict, in any manner, the actual stack height of any source.

(2) The provisions in R307-410-6 shall not apply to:

(a) stack heights in existence, or dispersion techniques implemented on or before December 31, 1970, except where pollutants are being emitted from such stacks or using such dispersion techniques by sources which were constructed or reconstructed, or for which major modifications were carried out after December 31, 1970; or

(b) coal-fired steam electric generating units subject to the provisions of Section 118 of the Clean Air Act, which commenced operation before July 1, 1957, and whose stacks were constructed under a construction contract awarded before February 8, 1974.

(3) The executive secretary may require the source owner or operator to provide a demonstration that the source stack height meets good engineering practice as required by R307-410-6.

KEY: air pollution, modeling, hazardous air pollutant, stack height
June 16, 2006
Notice of Continuation: August 11, 2003
19-2-104